

## ABSTRACT

Techniques for determining a position for a rotating optical element, or spinner, of a bar code scanner are described. A diffractive element is positioned so as to be struck by a laser beam produced by a laser source and reflected from the spinner when the spinner is in a reference position. The diffractive element diffracts the reflected beam to produce a diffracted line which strikes a reference position photodetector, thereby causing the reference position photodetector to produce a reference position photosignal. The reference position photosignal can be read by a controller to determine when the spinner is in the reference position and used by the controller as a signal to deactivate the laser source. The position of the spinner during its rotation can be computed based on the speed of the spinner and the time elapsed since the occurrence of the reference position photosignal, and the laser source can be activated when timing information indicates that the spinner is in an appropriate position to begin a single line scan pattern and deactivated when the reference position photosignal indicates that the spinner is in the correct position to terminate the single line scan pattern.